

```
%^\Other;HighlightOn=**;HighlightOff=***;
Trying 01180...Open

PLEASE ENTER HOST PORT ID:
PLEASE ENTER HOST-PORT ID:x
LOGINID:d18eexs
PASSWORD:
TERMINAL (ENTER 1, 2, 3, 4, OR ?): 3

*****
*
* Welcome to MESSENGER (APS Text) at USPTO
*
*
* The USPTO production files are current through:
* SEPTEMBER 22,1998 for U.S. Patent Text Data.
*
* SEPTEMBER 22,1998 for U.S. Current Classification
Data.*
* SEPTEMBER 22,1998 for U.S. Patent Image Data.
*
*
*
* PLEASE USE 305-9000 FOR NEW TELEPHONE
NUMBER *
*
* More U.S. patent data is now available on APS. The new
*
* USOCR file contains patents issued in 1970, plus some
*
* patents that were missing from the USPAT file. See the
*
* Patents News Folder under the Public Folders in e-mail for
*
* more information on using the new file. Thank you.
*
*
*
* DISCLAIMER:
* Neither the United States Government, nor any agency
*
* thereof, nor any of their contractors, subcontractors or
* employees make any warranty, expressed or implied,
*
* including any warranty of marketability of fitness for a
```

[illegible]

```
=> s0 000126/dn

'S0' IS NOT A RECOGNIZED COMMAND

=> s 0000126/dn

L2      0 0000126/DN

=> s 9623873/dn

L3      0 9623873/DN

=> s 000336/dn

L4      1 000336/DN

=> d

1. EP 00000336A1, Jan. 24, 1979,
N-benzylpyrimidinyl-amidines, process
for their preparation and medicines containing
DR
SCHARWAECHTER, et al., C07D 239/48; A
C07D 401/12; C07D
403/12; C07D 413/12

=> s 0056/dn

L5      0 0056/DN

=> s 5,364,782/pn

L6      0 5,364,782/PN

=> file uspat epoabs.jpoabs

FILE 'USPAT' ENTERED AT 12:41:40 ON

*****
*      WELCOME TO THE
*      U.S. PATENT TEXT FILE
*****

FILE 'EPOABS' ENTERED AT 12:41:40 ON

*****
* EUROPEAN PATENT AB
```

08/952,741

*

FILE 'JPOABS' ENTERED AT 12:41:40 ON 24 SEP 1998

* J A P A N E S E P A T E N T A B S T R A C T S
*
*
* CURRENTLY, DATA IS LOADED THROUGH APRIL
28, 1998, FOR THE *
* J A P A N E S E P A T E N T O F F I C E A B S T R A C T S
(JPOABS). *

* *
* GLOBAL PATENT INFORMATION-JAPANESE
PATENT OFFICE FILE *
* (GPI-JPO FILE) *
*
* THE FILE IS CURRENT THROUGH APRIL 28, 1998.

IRD CNOABS
=> s 5,364,782/pn
FILE 'USPAT'
L7 1 5,364,782/PN
(5364782/PN)
FILE 'EPOABS'
L8 0 5,364,782/PN
FILE 'JPOABS'
NUMERIC VALUE NOT VALID '5,364,782'
TOTAL FOR ALL FILES
L9 1 5,364,782/PN
=> d fro
US PAT NO: **5,364,782** [IMAGE AVAILABLE]
L9: 1 of 1

DATE ISSUED: Nov. 15, 1994
TITLE: Mutant microbial .alpha.-amylases with
increased thermal,
acid and/or alkaline stability
INVENTOR: Wilhelmus J. Quax, Voorschoten,
Netherlands
Yves Laroche, Brussels, Belgium
Adrianus W. H. Vollebregt, Naaldwijk, Netherlands
Patrick Stanssens, St. Denijs Westrem, Belgium
Marc Lauwereys, Haaltert, Belgium
ASSIGNEE: Gist-Brocades N.V., Delft, Netherlands
(foreign corp.)
Plant Genetic Systems N.V., Brussels, Belgium
(foreign corp.)
APPL-NO: 07/623,953
DATE FILED: Nov. 29, 1990
PCT-FILED: Jun. 27, 1990
PCT-NO: PCT/EP90/01042
371-DATE: Dec. 2, 1990
102(E)-DATE: Dec. 2, 1990
PCT-PUB-NO: WO91/00353
PCT-PUB-DATE: Jan. 10, 1991
FRN-PRIOR: European Patent Office89201735
Jun. 29, 1989
INT-CL: [5] C12N 9/28; C12N 15/56; C12N 1/21;
D06M 16/00
US-CL-ISSUED: 435/202, 252.3, 263, 275, 320.1;
536/23.2
US-CL-CURRENT: 435/202, 252.3, 263, 275, 320.1;
536/23.2
SEARCH-FLD: 435/202, 69.1, 320.1, 252.3, 263, 275;
536/23.2
REF-CITED:
U.S. PATENT DOCUMENTS
4,394,443 7/1983 Weissman et al. 435/6
4,740,461 4/1988 Kaufman 435/69.1
FOREIGN PATENT DOCUMENTS
0057976 8/1982 European Patent Office
0134048 3/1985 European Patent Office
0189838 8/1986 European Patent Office
0224294 6/1987 European Patent Office
0252666 1/1988 European Patent Office
0253455 1/1988 European Patent Office
0285123 10/1988 European Patent Office
OTHER PUBLICATIONS
Gray et al., Structural Genes Encoding the Thermophilic
alpha-Amylases of
Bacillus stearothermophilus and Bacillus licheniformis, J.
Bacteriol.
(1986) 166:635-643.
Kuhn et al., "N-Terminal Amino Acid Sequence of Bacillus
licheniformis
alpha-Amylase . . . " J. Bacteriol. (1982) 149:372-373.
Janin and Wodak, "Structural Domains in Proteins and their
Role in the
Dynamics of Protein Function", Prog. Biophys Molec. Biol.
(1983)
42:21-78.
Tomazic and Klibanov, "Why is One Bacillus alpha-Amylase
More Resistant
Against Irreversible Thermoinactivation Than Another?", J.
Biol. Chem.
(1988) 263:3092-3096.
Wigley et al., "The Greater Strength of Arginine:Carboxylate
Over Lysine
Carboxylate Ion Pairs Implications for the Design of Novel
Enzymes and
Drugs", Biochem. and Biophys. Res. Comm. (1987)
149:927-929.
Morinaga et al., "Improvement of Oligonucleotide-Directed
Site-Specific
Mutagenesis using Double-Stranded Plasmid DNA",
BioTechnology (1984)
2:636-639.
Folk and Hofstetter, "A Detailed Mutational Analysis of the
Eucaryotic
tRNA I met Gene Promoter", Cell (1983) 33:585-593.
Lehtovaara et al., "A New Method for Random Mutagenesis
of Complete
Genes:1 Enzymatic Generation of Mutant Libraries in vitro",
Prot. Eng.
(1988) 2:63-68.
Yuuki et al., "Complete Nucleotide Sequence of a Gene
Coding for Heat-and
pH Stable alpha-amylase of Bacillus licheniformis . . . ", J.
Biochem.
(1985) 98:1147-1156.
Nakajima et al., "Comparison of Amino Acid Sequences of
Eleven Different
alpha-amylases", Appl. Microbiol. Biotechnol. (1986)
23:355-360.
Shortle and Botstein, "Directed Mutagenesis with Sodium
Bisulfite",

Methods Enzymol (1983) 100:457-468. Smith., "In Vitro Mutagenesis", Ann. Rev. Genet. (1985) 19:423-462. Coker and Venkatasubramanian, "High Fructose Corn Syrup", Biotechnology (1985) 165-171. Kramer et al., "The Gapped Duplex DNA Approach to Oligonucleotide-directed Mutation Construction.", Nucl. Acids Res. (1984) 12:9441-9457. Stanssens et al., "Efficient Oligonucleotide-directed Construction of Mutations in Expression Vectors by the Gapped Duplex DNA Method using Alternating Selectable Markers", Nucl. Acids Res. (1989) 17:4441-4455. Fowler et al., "Characterization of Mutational Specificity Within the lacI Gene for a mutD5 Mutator Strain of Escherichia coli.", J. Bacteriol. (1986) 167:130-137. Shortle et al., "Gap Misrepair Mutagenesis: Efficient Site-directed Induction of Transition, Transversion, and Frameshift Mutations In vitro", Proc. Natl. Acad. Sci. USA (1982) 79:1588-1592. Zell and Fritz, "DNA Mismatch-repair in Escherichia coli Counteracting the Hydrolytic Deamination of 5-methyl-cytosine Residues", EMBO J. (1987) 6:1809-1815. Gryczan et al., "Characterization of Staphylococcus aureus Plasmids Introduced by Transformation into Bacillus subtilis", J. Bacteriol. (1978) 134:318-329. Sanger et al., "DNA Sequencing with Chain-terminating Inhibitors", Proc. Natl. Acad. Sci. USA (1977) 74:5463-5467. De Boer et al., "The lac Promoter: A Functional Hybrid Derived from the trp and lac Promoters", Proc. Natl. Acad. Sci. USA (1983) 80:21-25. Yutani et al. 1985, Adv. Biophys. 20: 13-29. Yuecki et al. 1985, J. Biochem. 98: 1147-1156. Ogasahara et al. 1970, J. Biochemistry 67(1): 65-75. Jaenicke, R. 1991, Eur. J. Biochem. 202: 715-728.	PRIM-EXMR: Keith C. Furman LEGAL-REP: Barbara Rae-Venter ABSTRACT: Thermostable and acid stable .alpha.-amylases are provided as expression products of genetically engineered .alpha.-amylase genes isolated from microorganisms, preferably belonging to the class of Bacilli. Both chemical and enzymatic mutagenesis methods are e.g. the bisulphite method and enzymatic misincorporation on gapped heteroduplex DNA. The mutant .alpha.-amylases have superior properties, e.g. improved thermostability over a broad pH range, for industrial application in starch processing and textile desizing. 6 Claims, 15 Drawing Figures => d clms	wherein said replacement is one or more amino acid replacements selected from the group consisting of Ala-111-Thr, His-133-Tyr and Thr-149-Ile. CLMS(2) 2. A DNA encoding the mutant .alpha.-amylase claim 1. CLMS(3) 3. An expression vector which comprises a DNA according to claim 2. CLMS(4) 4. A host cell containing an expression vector according to claim 3. CLMS(5) 5. A method for the degradation of starch which comprises: contacting said starch with a mutated .alpha.-amylase according claim 1 for a sufficient time and under conditions whereby said .alpha.-amylase degrades said starch. CLMS(6) 6. A method for textile desizing which comprises: contacting sized textile with a mutated .alpha.-amylase according claim 1 for a sufficient time and under conditions whereby said sized textile is desized. => s alkaline (15a)amylase FILE 'USPAT' 142438 ALKALINE 4436 AMYLASE L10 375 ALKALINE (15A)AMYLASE FILE 'EPOABS' 14838 ALKALINE 582 AMYLASE
ART-UNIT: 184		1. An isolated mutant .alpha.-amylase wherein said mutant .alpha.-amylase has a replacement of at least one amino acid in a corresponding wild-type .alpha.-amylase obtainable from Bacillus licheniformis and wherein said mutant .alpha.-amylase exhibits one or more improved properties relative to the wild-type .alpha.-amylase selected from the group consisting of improved thermostability, improved stability at a pH below 6.5, improved stability at a pH above 7.5, and improved acid stability as a result of said replacement,

08/952,741

L11 18 ALKALINE (15A)AMYLASE
FILE 'JPOABS'
24820 ALKALINE
1151 AMYLASE
L12 13 ALKALINE (15A)AMYLASE
TOTAL FOR ALL FILES
L13 406 ALKALINE (15A) AMYLASE
=> s bacillus (15a)l13
FILE 'USPAT'
11566 BACILLUS
L14 48 BACILLUS (15A)L10
FILE 'EPOABS'
1054 BACILLUS
L15 3 BACILLUS (15A)L11
FILE 'JPOABS'
2446 BACILLUS
L16 2 BACILLUS (15A)L12
TOTAL FOR ALL FILES
L17 53 BACILLUS (15A) L13
=> s l17 and py>1995
FILE 'USPAT'
363232 PY>1995
L18 15 L14 AND PY>1995
FILE 'EPOABS'
97146 PY>1995
L19 0 L15 AND PY>1995
FILE 'JPOABS'
317148 PY>1995
L20 0 L16 AND PY>1995
TOTAL FOR ALL FILES
L21 15 L17 AND PY>1995
=> d l-

methionine sulfoxide
reductase, and adhesion-associated protein, and antibiotic
therapies
based thereon; Elaine Tuomanen, et al., 435/189, 69.1,
252.3, 320.1;
530/350; 536/23.2, 23.7 [IMAGE AVAILABLE]
2. 5,780,261, **Jul. 14, 1998**, Method and system for
enhanced
production of commercially important exoproteins in
gram-positive
bacteria; Vesa Kontinen, et al., 435/69.1, 69.8, 71.1, 71.2,
252.3,
252.31, 252.5, 254.11, 320.1 [IMAGE AVAILABLE]
3. 5,770,424, **Jun. 23, 1998**, DNA constructs and
methods of producing
xylanolytic enzymes; Helle Outtrup, et al., 435/200, 252.3,
252.31,
320.1; 536/23.2 [IMAGE AVAILABLE]
4. 5,733,723, **Mar. 31, 1998**, Stable gene amplification
in
chromosomal DNA of prokaryotic microorganisms;
Christiaan A. G. van
Eekelen, et al., 435/6, 222, 252.31, 485 [IMAGE
AVAILABLE]
5. 5,681,715, **Oct. 28, 1997**, Process for preparing
lipases; Steen
Troels J.o slashed.rnsen, et al., 435/69.1, 69.7, 198, 252.3,
252.33,
320.1, 325; 536/23.2, 23.4, 23.7 [IMAGE AVAILABLE]
6. 5,650,326, **Jul. 22, 1997**, Promoter element and
signal peptide of
a gene encoding a Bacillus alkaline protease and vectors
comprising same;
Alan P. Sloma, et al., 435/320.1, 69.1, 252.3, 252.31;
530/324; 536/23.1,
24.1 [IMAGE AVAILABLE]
7. 5,635,468, **Jun. 3, 1997**, Liquefying alkaline
alpha-amylase,
process for producing the same, and detergent composition
containing the
same; Katsutoshi Ara, et al., 510/392; 435/201, 202, 203,
204; 510/530

[IMAGE AVAILABLE]

8. 5,622,850, **Apr. 22, 1997**, Recombinant methods for the production of a bacillus alkaline protease; Alan P. Sloma, et al., 435/221, 69.1, 220, 252.3, 252.31, 320.1; 536/23.2, 23.7, 24.1 [IMAGE AVAILABLE]
9. 5,622,841, **Apr. 22, 1997**, Method for the production of heterologous polypeptides using a promoter element and signal peptide of a bacillus gene encoding an alkaline protease; Alan P. Sloma, et al., 435/69.1, 69.7, 252.3, 252.31; 536/23.2, 23.4, 24.1 [IMAGE AVAILABLE]
10. 5,621,089, **Apr. 15, 1997**, Nucleic acid constructs for the production of a Bacillus alkaline protease; Alan P. Sloma, et al., 536/23.2, 435/69.1, 220, 221, 252.3, 252.31, 320.1; 536/23.7, 24.1 [IMAGE AVAILABLE]
11. 5,618,933, **Apr. 8, 1997**, Sugar-based polymers; Jonathan S. Dordick, et al., 536/115, 116, 119, 120 [IMAGE AVAILABLE]
12. 5,612,192, **Mar. 18, 1997**, DNA base sequence containing regions involved in the production and secretion of a protein, recombinant DNA including the whole or a part of the DNA base sequence, and method of producing proteins by use of the recombinant DNA; Yoshio Furutani, et al., 435/69.1, 252.3, 252.31, 320.1 [IMAGE AVAILABLE]
13. 5,578,463, **Nov. 26, 1996**, Heterologous polypeptides expressed in filamentous fungi, processes for making same, and vectors for making same; Randy M. Berka, et al., 435/69.1, 69.7, 69.8, 183, 205, 254.3, 320.1; 536/23.2, 23.74, 24.1 [IMAGE AVAILABLE]

1. 5,798,243, **Aug. 25, 1998**, Bacterial peptide

08/952,741

14. 5,565,348, **Oct. 15, 1996**, Alkaline protease from *Bacillus* proteolyticus species; Ernest W. Boyer, et al., 435/221, 220; 510/320.
321, 392, 393, 530 [IMAGE AVAILABLE]

15. 5,518,917, **May 21, 1996**, *Bacillus* proteolyticus species which produce an alkaline protease; Ernest W. Boyer, et al., 435/252.5, 832, 839 [IMAGE AVAILABLE]

=> d 7 fro

US PAT NO: 5,635,468 [IMAGE AVAILABLE]

L21: 7 of 15

DATE ISSUED: **Jun. 3, 1997**

TITLE: Liquefying alkaline .alpha.-amylase, process for producing the same, and detergent composition containing the same

INVENTOR: Katsutoshi Ara, Oyama, Japan
Katsuhisa Saeki, Kawachi-machi, Japan
Kazuaki Igarashi, Kaminokawa-machi, Japan
Mikio Takaiwa, Tochigi, Japan
Takaaki Uemura, Hazaki-machi, Japan
Shuji Kawai, Kawachi-machi, Japan
Susumu Ito, Utsunomiya, Japan
Hiroshi Hagihara, Ichikai-machi, Japan
Tohru Kobayashi, Utsunomiya, Japan
Atsushi Tanaka, Wakayama, Japan
Eiichi Hoshino, Wakayama, Japan

ASSIGNEE: Kao Corporation, Tokyo, Japan (foreign corp.)

APPL-NO: 08/362,493

DATE FILED: Jan. 11, 1995

PCT-FILED: May 19, 1994

PCT-NO: PCT/JP94/00805

371-DATE: Jan. 11, 1995

102(E)-DATE: Jan. 11, 1995

PCT-PUB-NO: WO94/26881

PCT-PUB-DATE: Nov. 24, 1994

FRN-PRIOR: Japan 5-117392 May 19, 1993

INT-CL: [6] C11D 3/386

US-CL-ISSUED: 510/392, 531; 435/201, 202, 203, 204
US-CL-CURRENT: 510/392; 435/201, 202, 203, 204;
510/530

SEARCH-FLD: 252/174.12, DIG.12; 435/201, 202, 203, 204; 510/392, 530

REF-CITED:

U.S. PATENT DOCUMENTS

4,284,722 8/1981 Tamuri et al. 435/94
4,469,791 9/1984 Colson et al. 435/253
4,642,288 2/1987 El. DeMiguel et al. 435/99
4,724,208 2/1988 Brewer et al. 252/188
5,030,377 7/1991 Sone et al. 252/174.12
5,173,207 12/1992 Drapier et al.
5,188,956 2/1993 Nanmori et al. 435/200
5,316,691 5/1994 Sone et al. 252/174.12
5,364,782 11/1994 Quax et al.
5,429,766 7/1995 Son et al. 252/174.12

FOREIGN PATENT DOCUMENTS

410498 1/1991 European Patent Office
516553 12/1992 European Patent Office
WO8905863 6/1989 World Intellectual Property Organization
WO9100353 1/1991 World Intellectual Property Organization
WO9402597 2/1994 World Intellectual Property Organization
WO95/26397 10/1995 World Intellectual Property Organization
ART-UNIT: 115
PRIM-EXMR: Paul Lieberman
ASST-EXMR: Kery A. Fries
LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

ABSTRACT:

The present invention relates to a liquefying alkaline .alpha.-amylase having the enzymatic properties described below, a production process thereof and a detergent composition containing the same.
1) Action:
It hydrolyzes .alpha.-1,4-glucosidic linkages in starches, amylose, amylopectin and partial degradation products thereof and from amylose, forms glucose (G1), maltose (G2), maltotriose (G3),

maltotetraose (G4), maltopentaose (G5) and maltohexaose (G6). It however does not act on pullulan.

2) Isoelectric point:

It has an isoelectric point higher than 8.5 when measured by an

isoelectric focusing electrophoresis.

The amylase according to the present invention has a liquefying activity capable of permitting degrading starches and starchy polysaccharides at high random, and has an optimum pH on the alkaline side.

Owing to the high isoelectric point, it can be purified readily. Detergents with the amylase incorporated therein have excellent detergency especially against the soil of smeared food.

23 Claims, 5 Drawing Figures

=> s 113 and py=1995

FILE 'USPAT'
113939 PY=1995

L22 16 L10 AND PY=1995

FILE 'EPOABS'
189921 PY=1995

L23 6 L11 AND PY=1995

FILE 'JPOABS'
310420 PY=1995

L24 2 L12 AND PY=1995

TOTAL FOR ALL FILES

L25 24 L13 AND PY=1995

=> d 1-

1. 5,474,915, **Dec. 12, 1995**, Method of making poly(sugar acrylates) using hydrolytic enzymes; Jonathan S. Dordick, et al., 435/72, 95, 99, 101, 135; 536/115, 116, 119, 120, 122, 124, 126 [IMAGE AVAILABLE]

08/952,741

2. 5,466,601, **Nov. 14, 1995**, Selectively removing embedded lint precursors with cellulase; Terry L. Jenkins, et al., 435/263; 8/112, 401; 19/40; 435/277 [IMAGE AVAILABLE]
3. 5,466,575, **Nov. 14, 1995**, Process for the manufacture of wholly microfabricated biosensors; Stephen N. Cozzette, et al., 435/6; 204/403; 411, 412, 414, 415, 416, 417, 418, 419, 430, 431, 432; 422/82.01; 427/2.13, 96; 435/177, 817; 436/149, 806 [IMAGE AVAILABLE]
4. 5,444,046, **Aug. 22, 1995**, Amylase inhibitors; Toshiyuki Miyazaki, et al., 514/12; 426/656; 530/374, 375, 416 [IMAGE AVAILABLE]
5. 5,431,842, **Jul. 11, 1995**, Liquid detergents with ortho-substituted phenylboronic acids for inhibition of proteolytic enzyme; Rajan K. Panandiker, et al., 510/321; 264/189, 264; 510/300, 339, 393, 465 [IMAGE AVAILABLE]
6. 5,429,766, **Jul. 4, 1995**, Detergent composition containing alkaline pullylanase enzyme; Taeko Sone, et al., 510/392; 435/210, 832; 510/226, 320, 323 [IMAGE AVAILABLE]
7. 5,429,765, **Jul. 4, 1995**, Detergent and method for producing the same; David M. Flower, 510/276; 8/137; 435/218, 220, 221, 222, 223, 224, 225; 510/306, 320, 349, 356, 392, 509 [IMAGE AVAILABLE]
8. 5,427,711, **Jun. 27, 1995**, Synthesized inorganic ion exchange material and detergent composition containing the same; Mikio Sakaguchi, et al., 510/376; 423/331, 593; 510/306, 313, 317, 320, 348, 374, 511, 531 [IMAGE AVAILABLE]

9. 5,422,352, **Jun. 6, 1995**, Slimming pharmaceutical composition; Arne Astrup, 514/264, 653 [IMAGE AVAILABLE]
10. 5,419,778, **May 30, 1995**, Detergent compositions containing substantially pure EG III cellulase; Kathleen A. Clarkson, et al., 8/116.1, 101; 435/209, 264; 510/320, 321, 530 [IMAGE AVAILABLE]
11. 5,411,666, **May 2, 1995**, Methods for removing biofilm from or preventing buildup thereof on surfaces in industrial water systems; C. George Hollis, et al., 210/632; 162/161; 210/764 [IMAGE AVAILABLE]
12. 5,403,745, **Apr. 4, 1995**, Determination of analytes in biological fluids in the presence of substances interfering with assays therefor; James F. Ollington, et al., 435/11; 422/58, 61, 72; 435/7.4, 17, 22, 26, 962; 436/71, 518, 528, 531, 536, 538, 539, 541, 807, 824, 825 [IMAGE AVAILABLE]
13. 5,387,521, **Feb. 7, 1995**, Gene expression in bacilli; Eugenio Ferrari, 435/252.31, 183, 198, 209, 221 [IMAGE AVAILABLE]
14. 5,385,837, **Jan. 31, 1995**, Alkaline proteases derived from *Bacillus proteolyticus*; Ernest W. Boyer, et al., 435/221, 220, 222; 510/320, 321, 392, 393, 530 [IMAGE AVAILABLE]
15. 5,385,681, **Jan. 31, 1995**, Scouring agent composition for fabric; Toshio Sato, et al., 8/137; 510/355, 356, 357, 425, 427, 430, 513 [IMAGE AVAILABLE]
16. 5,378,623, **Jan. 3, 1995**, Phospholipase A1, process for its preparation and the use thereof; Atsushi Hattori, et al.,

- 435/198, 128, 131 [IMAGE AVAILABLE]
 17. US 05474915A, **Dec. 12, 1995**, Method of making poly(sugar acrylates) using hydrolytic enzymes; JONATHAN S DORDICK, et al., C12P 19/00; C08F 2/00; C08F 18/04; C07H 13/00
 18. US 05403745A, **Apr. 4, 1995**, Determination of analytes in biological fluids in the presence of substances interfering with assays therefor; JAMES F OLLINGTON, et al., C12Q 1/60; G01N 33/543
 19. EP 00670367A1, **Sep. 6, 1995**, LIQUEFYING **ALKALINE**-g(a)-**AMYLASE** PROCESS FOR PRODUCING THE SAME, AND DETERGENT COMPOSITION CONTAINING THE SAME.; KATSUTOSHI ARA, et al., C12N 9/28; C11D 3/386
 20. WO 09526397A1, **Oct. 5, 1995**, **ALKALINE** BACILLUS **AMYLASE**, HELLE OUTTRUP, et al., C12N 9/28; C11D 3/386
 21. WO 09522601A1, **Aug. 24, 1995**, POULTRY FOODSTUFF ENZYMES; RONALD PUGH, C12N 9/00; A23K 1/165; A23K 1/18
 22. WO 09509909A1, **Apr. 13, 1995**, AN ENZYME PREPARATION COMPRISING A MODIFIED ENZYME; ARNE AGERLIN OLSEN, et al., C12N 9/96; C11D 3/386; C12N 9/14
 23. 07-285881, **Oct. 31, 1995**, EXCITOMETABOLIC AGENT FOR ALCOHOL; MAGOICHI YAMAGUCHI, et al., A61K 38/00; //C07K 14/415
 24. 07-285880, **Oct. 31, 1995**, LIVER FUNCTION ACTIVATOR; MAGOICHI YAMAGUCHI, et al., A61K 38/00; C07K 14/415
- => s 113 and py<1995

08/952,741

FILE 'USPAT'
1872165 PY<1995
L26 255 L10 AND PY<1995

FILE 'EPOABS'
2560000 PY<1995
L27 12 L11 AND PY<1995

FILE 'JPOABS'
3267620 PY<1995
L28 9 L12 AND PY<1995

TOTAL FOR ALL FILES
L29 276 L13 AND PY<1995

=> dis his

(FILE 'USPAT' ENTERED AT 12:30:28 ON 24 SEP 1998)

FILE 'EPOABS' ENTERED AT 12:30:44 ON 24 SEP 1998
L1 0 S 000126/DN
L2 0 S 000126/DN
L3 0 S 9623873/DN
L4 1 S 000336/DN
L5 0 S 0056/DN
L6 0 S 5,364,782/PN

FILE 'USPAT, EPOABS, JPOABS' ENTERED AT 12:41:40 ON 24 SEP 1998

FILE 'USPAT'
L7 1 S 5,364,782/PN

FILE 'EPOABS'
L8 0 S 5,364,782/PN

FILE 'JPOABS'
TOTAL FOR ALL FILES
L9 1 S 5,364,782/PN

FILE 'USPAT'
L10 375 S ALKALINE (15A)AMYLASE

FILE 'EPOABS'
L11 18 S ALKALINE (15A)AMYLASE

FILE 'JPOABS'
L12 13 S ALKALINE (15A)AMYLASE
TOTAL FOR ALL FILES
L13 406 S ALKALINE (15A)AMYLASE
FILE 'USPAT'

L14 48 S BACILLUS (15A)L13
FILE 'EPOABS'
L15 3 S BACILLUS (15A)L13
FILE 'JPOABS'
L16 2 S BACILLUS (15A)L13
TOTAL FOR ALL FILES
L17 53 S BACILLUS (15A)L13
FILE 'USPAT'
L18 15 S L17 AND PY>1995
FILE 'EPOABS'
L19 0 S L17 AND PY>1995
FILE 'JPOABS'
L20 0 S L17 AND PY>1995
TOTAL FOR ALL FILES
L21 15 S L17 AND PY>1995
FILE 'USPAT'
L22 16 S L13 AND PY=1995
FILE 'EPOABS'
L23 6 S L13 AND PY=1995
FILE 'JPOABS'
L24 2 S L13 AND PY=1995
TOTAL FOR ALL FILES
L25 24 S L13 AND PY=1995
FILE 'USPAT'
L26 255 S L13 AND PY<1995
FILE 'EPOABS'
L27 12 S L13 AND PY<1995
FILE 'JPOABS'
L28 9 S L13 AND PY<1995
TOTAL FOR ALL FILES
L29 276 S L13 AND PY<1995

=> log h

SESSION WILL BE HELD FOR 30 MINUTES
U.S. Patent & Trademark Office SESSION SUSPENDED
AT 13:02:07 ON 24 SEP 199

8

Connection closed by remote host
Trying 9351006...Open

Welcome to STN International! Enter x:x
LOGINID:ssspta1800exs
PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

***** Welcome to STN International *****

NEWS 1 Feb 2 Web Page URLs for STN Seminar
Schedule - N. America
NEWS 2 Jun 30 STN Express 4.1 with Discover! for
Macintosh Now

Available

NEWS 3 Jun 29 REGISTRY Stereochemical Name
Changes
NEWS 4 Aug 12 CSS Structure Search Quirk Involving
AK-C

NEWS 5 Aug 18 German Automotive Database DKF
(Dokumentation)

NEWS 6 Aug 26 Meeting Abstracts for the 216th ACS
Meeting Now
in Caplus

NEWS EXPRESS Discover! is Year 2000 Compliant
NEWS HOURS STN Operating Hours Plus Help Desk
Availability

NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication
Network Access to STN
NEWS WWW CAS World Wide Web Site (general
information)

Enter NEWS followed by the item number or name to see
news on that
specific topic.

All use of STN is subject to the provisions of the STN
Customer

agreement. Please note that this agreement limits use to
scientific
research. Use for software development or design or
implementation
of commercial gateways or other similar uses is prohibited
and may
result in loss of user privileges and other penalties.

*****STN Columbus *****

FILE 'HOME' ENTERED AT 13:01:22 ON 24 SEP 1998

=> file caplus

08/952,741

COST IN U.S. DOLLARS SINCE FILE
TOTAL ENTRY SESSION
FULL ESTIMATED COST 0.15
0.15

FILE 'CAPLUS' ENTERED AT 13:01:29 ON 24 SEP 1998
USE IS SUBJECT TO THE TERMS OF YOUR STN
CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 1998 AMERICAN CHEMICAL
SOCIETY (ACS)

Copyright of the articles to which records in this database
refer is
held by the publishers listed in the PUBLISHER (PB) field
(available
for records published or updated in Chemical Abstracts after
December
26, 1996), unless otherwise indicated in the original
publications.

FILE COVERS 1967 - 24 Sep 1998 VOL 129 ISS 13
FILE LAST UPDATED: 24 Sep 1998 (980924/ED)

This file contains CAS Registry Numbers for easy and
accurate
substance identification.

This file supports REGISTRY for direct browsing and
searching of
all substance data from the REGISTRY file. Enter HELP
FIRST for
more information.

=> s alkaline (15a)amylase

65605 ALKALINE
47 ALKALINES
65645 ALKALINE
(ALKALINE OR ALKALINES)
219286 ALK
63 ALKS
219321 ALK
(ALK OR ALKS)
232998 ALKALINE
(ALKALINE OR ALK)

27766 AMYLASE
4695 AMYLASES
28451 AMYLASE
(AMYLASE OR AMYLASES)
L1 753 ALKALINE (15A)AMYLASE

=> s bacillus and l1

47095 BACILLUS
3770 BACILLI
136 BACILLUS
49892 BACILLUS
(BACILLUS OR BACILLUSES OR BACIL)
L2 118 BACILLUS AND L1

=> s l2 and py<1996

12847572 PY<1996
L3 103 L2 AND PY<1996

=> s l2 and py=1996

754047 PY=1996
L4 7 L2 AND PY=1996

=> d l-

YOU HAVE REQUESTED DATA FROM 7 ANSWERS -
CONTINUE? Y(N);y

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 1998 ACS
AN 1997:187680 CAPLUS
DN 126:185065

TI Selection for high ***alkaline*** ***amylase***
production
and fermentation conditions
AU Yan, Haolin; Su, Xin; Zhou, Lina
CS Department Microbiology, Shenyang Pharmaceutical
University,
Shenyang, 110015, Peop. Rep. China
SO Weishengwuxue Zazhi (***1996***), 16(4), 23-26
CODEN: WEZAER
PB "Weishengwuxue Zazhi" Bianjibu
DT Journal
LA Chinese

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 1998 ACS

AN 1997:94013 CAPLUS
DN 126:154433
TI Cloning of gene for liquid-type ***alkaline*** .alpha.-
amylase of ***Bacillus*** and use for
preparation of
detergents
IN Hatada, Yuji; Ozaki, Katsuya; Ara, Katsutoshi; Kawai,
Shuji; Ito,
Susumu
PA Kao Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JXXXAF
PI JP 08336392 A2 ***19961224*** Heisei
AI JP 95-147257 19950614
DT Patent
LA Japanese

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 1998 ACS
AN 1997:78519 CAPLUS
DN 126:216546

TI Selection of rational doses of hydrolase in formulations
for
substitution therapy of digestive insufficiency
AU Belyaev, O. A.

CS St. Petersburg Pediatr. Med. Akad., St. Petersburg,
Russia
SO Khim.-Farm. Zh. (***1996***), 30(11), 52-54
CODEN: KHFZAN; ISSN: 0023-1134

PB Izdatel'stvo Folium
DT Journal
LA Russian

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 1998 ACS
AN 1997:56021 CAPLUS

DN 126:71200
TI ***Bacillus*** ***alkaline*** amylotopullulanase
enzyme having
both ***alkaline*** pullulanase and ***alkaline***
.alpha.-
amylase activities, gene sequence and
recombinant production
of wild-type and mutant deriv. enzymes

IN Hatada, Yuji; Igarashi, Kazuaki; Ozaki, Katsuya; Ara,
Katsutoshi;
Kawai, Shuji; Ito, Susumu
PA Kao Corporation, Japan; Hatada, Yuji; Igarashi,
Kazuaki; Ozaki,
Katsuya; Ara, Katsutoshi; Kawai, Shuji; Ito, Susumu

08/952,741

- SO PCT Int. Appl., 74 pp.
CODEN: PIXXD2
PI WO 9635794 A1 ***19961114***
DS W: CN, US
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT,
LU, MC, NL, PT,
SE
AI WO 96-JP1243 19960510
PRAI JP 95-111547 19950510
DT Patent
LA English
- L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 1998 ACS
AN 1997:30435 CAPLUS
DN 126:71558
TI Synergistic effects of permethrin and cypermethrin on the toxicity of ***Bacillus*** thuringiensis in the adult beetles of *Tribolium castaneum*
AU Saleem, Mushiaq A.; Shakoori, A. R.
CS Department Zoology, University the Punjab, Lahore, Pak.
SO Pak. J. Zool. (***1996***), 28(3), 191-198
CODEN: PIZOAN; ISSN: 0030-9923
PB Zoological Society of Pakistan
DT Journal
LA English
- L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 1998 ACS
AN 1996:598206 CAPLUS
DN 125:268864
TI A novel maltotetraose-forming ***alkaline*** alpha-***amylase*** from an alkalophilic ***Bacillus*** strain,
GM8901
AU Shin, Yong Chul; Byun, Si Myung
CS Department Microbiology, Gyeongsang National University, Jinju, 660-701, S. Korea
SO Prog. Biotechnol. (***1996***), 12(Enzymes for Carbohydrate Engineering), 61-82
CODEN: PBITE3; ISSN: 0921-0423
DT Journal
LA English
- L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 1998 ACS
AN 1996:240926 CAPLUS
- DN 124:268943
TI Hypersensitivity reactions and specific antibodies in workers exposed to industrial enzymes at a biotechnology plant
AU Biagini, Raymond E.; Driscoll, Richard J.; Bernstein, David I.; Wilcox, Thomas G.; Henningsen, Gerry M.; MacKenzie, Barbara A.; Burr, Gregory A.; Scinto, John D.; Baumgardner, Eric S.
CS Dep. Health Human Services, Public Health Service, Cincinnati, OH, 45226, USA
SO J. Appl. Toxicol. (***1996***), 16(2), 139-45
CODEN: JJATDK; ISSN: 0260-437X
DT Journal
LA English
- => s l3 and (gene or dna)
453357 GENE
207572 GENE
483797 GENE
(GENE OR GENES)
392946 DNA
12936 DNAS
394853 DNA
(DNA OR DNAS)
L5 25 L3 AND (GENE OR DNA)
=> d l-
- YOU HAVE REQUESTED DATA FROM 25 ANSWERS - CONTINUE? Y(N)?y
- L5 ANSWER 1 OF 25 CAPLUS COPYRIGHT 1998 ACS
AN 1995:112290 CAPLUS
DN 122:4112
TI Cloning of the aapT ***gene*** and characterization of its product, alpha.-amylase-pullulanase (AapT), from thermophilic and alkaliphilic ***Bacillus*** sp. strain XAL601
AU Lee, Sang-pil; Morikawa, Masaaki; Takagi, Masahiro; Imanaka, Tadayuki
CS Dep. Biotechnol., Osaka Univ., Osaka, 565, Japan
- SO Appl. Environ. Microbiol. (***1994***), 60(10), 3764-73
CODEN: AEMIDF; ISSN: 0099-2240
DT Journal
LA English
- L5 ANSWER 2 OF 25 CAPLUS COPYRIGHT 1998 ACS
AN 1994:264606 CAPLUS
DN 120:264606
TI Alkaline proteases of ***Bacillus*** pumilus: isolation, characterization, preparation with recombinant microorganisms, and use in washing compositions
IN Vetter, Roman; Wilke, Dettlef; Moeller, Bernhard; Lerch, Martina; Muecke, Ingo; Takenberg, Meike; Konieczny-janda, Gerhard; Konieczny-Janda, Gerhard
PA Solvay Enzymes GmbH und Co. KG, Germany
SO Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW
PI EP 572992 A1 ***19931208***
DS R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
AI EP 93-108830 19930602
PRAI DE 92-4218448 19920604
DT Patent
LA German
- L5 ANSWER 3 OF 25 CAPLUS COPYRIGHT 1998 ACS
AN 1994:237612 CAPLUS
DN 120:237612
TI High expression vector for manufacturing proteins with ***Bacillus***
IN Ikeda, Takayuki
PA Md Res, Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
PI JP 05252964 A2 ***19931005*** Heisei
AI JP 91-68988 19910308
DT Patent
LA Japanese
- L5 ANSWER 4 OF 25 CAPLUS COPYRIGHT 1998 ACS

- AN 1993:447475 CAPLUS
DN 119:47475
TI Effects of environmental conditions on expression of
****Bacillus**** *subtilis* alpha-amylase in recombinant
Escherichia coli
AU Shin, Pyong K.; Nam, Seung H.; Seo, Jin Ho
CS Korea Inst. Sci. Technol., Seoul, 130-650, S. Korea
SO J. Microbiol. Biotechnol. (***1992***), 2(3), 166-73
CODEN: JOMBES
DT Journal
LA English
- L5 ANSWER 5 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1993:248641 CAPLUS
DN 118:248641
TI Secretory expression of a glutamic-acid-specific
endopeptidase
(SPase) from *Staphylococcus aureus* ATCC12600 in
****Bacillus****
subtilis
AU Kakudo, Shiriji; Yoshikawa, Kazumasa; Tamaki,
Mikio; Nakamura, Etsuo;
Teraoka, Hiroshi
CS Shionogi Res. Lab., Shionogi and Co., Ltd., Osaka, 553,
Japan
SO Appl. Microbiol. Biotechnol. (***1992***), 38(2),
226-33
CODEN: AMBIDG; ISSN: 0175-7598
DT Journal
LA English
- L5 ANSWER 6 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1993:184564 CAPLUS
DN 118:184564
TI ***Gene*** expression using gram-positive bacteria
AU Imanaka, Tadayuki
CS Osaka Univ., Suita, 565, Japan
SO Harnessing Biotechnol. 21st Century, Proc. Int.
Biotechnol. Symp.
Expo., 9th (***1992***), 18-22. Editor(s): Ladisch,
Michael R.;
Bose, Arindam. Publisher: ACS, Washington, D.C.
CODEN: 58ODAU
DT Conference
LA English
- L5 ANSWER 7 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1993:2955 CAPLUS
DN 118:2955
TI Cloning and expression of ***gene*** for alkaline
protease Ya of
****Bacillus****
IN Tobe, Seiichi; Odera, Motoyasu; Asai, Yoshio
PA Lion Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
PI JP 04197182 A2 ***19920716*** Heisei
AI JP 90-327110 19901128
DT Patent
LA Japanese
- L5 ANSWER 8 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1992:505715 CAPLUS
DN 117:105715
TI G6 amylase of alkalophilic ****Bacillus**** and its
gene
cloning
IN Horikoshi, Koki; Shirokizawa, Osamu
PA JGC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
PI JP 04027392 A2 ***19920130*** Heisei
AI JP 90-133726 19900523
DT Patent
LA Japanese
- L5 ANSWER 9 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1992:208789 CAPLUS
DN 116:208789
TI Construction of an *Escherichia coli* export-affinity vector
for
expression and purification of foreign proteins by fusion to
cyclomaltodextrin glucanotransferase
AU Hellman, Jukka; Mantsala, Pekka
CS Dep. Biochem., Univ. Turku, SF-20500, Finland
SO J. Biotechnol. (***1992***), 23(1), 19-34
CODEN: JBITD4; ISSN: 0168-1656
DT Journal
LA English
- L5 ANSWER 10 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1992:16397 CAPLUS
DN 116:16397
TI A new pleiotropic mutation affecting purine metabolism,
sporulation
and biosynthesis of exoenzymes in ****Bacillus****
subtilis
AU Maznitsa, I. I.; Nudler, A. A.; Burd, G. I.
CS Inst. Genet. Select. Ind. Microorg., Moscow, 113545,
USSR
SO Genetika (Moscow) (***1991***), 27(6), 983-90
CODEN: GNKAAS; ISSN: 0016-6758
DT Journal
LA Russian
- L5 ANSWER 11 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1991:158541 CAPLUS
DN 114:158541
TI Molecular cloning of ****Bacillus**** *subtilis*
DNA
associated with extracellular protease inhibition
IN Furiya, Yoshio; Honjo, Masaru; Nakayama, Akira;
Fukazawa, Keiko
PA Agency of Industrial Sciences and Technology, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
PI JP 02207790 A2 ***19900817*** Heisei
AI JP 89-27492 19890208
DT Patent
LA Japanese
- L5 ANSWER 12 OF 25 CAPLUS COPYRIGHT 1998
ACS
AN 1991:20849 CAPLUS
DN 114:20849
TI A pleiotropic mutation affecting purine metabolism in
****Bacillus**** *subtilis*
AU Maznitsa, I. I.; Nudler, A. A.; Burd, G. I.
CS Inst. Genet. Sel. Ind. Microorg., Moscow, 113545,
USSR
SO FEMS Microbiol. Lett. (***1990***), 72(1-2), 173-6
CODEN: FMLED7; ISSN: 0378-1097
DT Journal
LA English
- L5 ANSWER 13 OF 25 CAPLUS COPYRIGHT 1998

- ACS
 AN 1990:546166 CAPLUS
 DN 113:146166
 TI A novel *****Bacillus***** subtilis *****gene*****
 involved in
 negative control of sporulation and degradative-enzyme
 production
 AU Honjo, Masaru; Nakayama, Akira; Fukazawa, Keiko;
 Kawamura, Koichi;
 Ando, Kazunori; Hori, Michiko; Furutani, Yoshio
 CS Cent. Res. Inst., Mitsui Toatsu Chem., Inc., Chiba, 297,
 Japan
 SO J. Bacteriol. (*****1990*****), 172(4), 1783-90
 CODEN: JOBAAY; ISSN: 0021-9193
 DT Journal
 LA English
- L5 ANSWER 14 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1990:494632 CAPLUS
 DN 113:94632
 TI Protoplast transformation of alkalophilic
*****Bacillus***** sp. by
 plasmid *****DNA*****
 AU Usami, Ron; Kudo, Toshiaki; Horikoshi, Koki
 CS Res. Dev. Corp. Japan, Riken Inst., Wako, 351-01,
 Japan
 SO Starch/Staerke (*****1990*****), 42(6), 230-2
 CODEN: STARDD; ISSN: 0038-9056
 DT Journal
 LA English
- L5 ANSWER 15 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1989:510259 CAPLUS
 DN 111:110259
 TI Molecular cloning and expression of *****alkaline*****
*****amylase***** *****gene***** of alkalophilic
*****Bacillus*****
 sp. in *****Bacillus***** subtilis and *Escherichia coli*
 AU Bae, Moo; Park, Shin Hae
 CS Dep. Biol., Ewha Womans Univ., Seoul, 120-750, S.
 Korea
 SO Sanop Misaengmul Hakhoechi (*****1989*****), 17(2),
 160-4
 CODEN: SMHAEH; ISSN: 0257-2389
 DT Journal
 LA English
- L5 ANSWER 16 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1987:471827 CAPLUS
 DN 107:71827
 TI prfR enhances the mRNA level of the *****Bacillus*****
 subtilis
 extracellular proteases
 AU Tanaka, Teruo; Kawata, Mutsumi; Nagami, Yoichi;
 Uchiyama, Hiroo
 CS Mitsubishi-Kasei Inst. Life Sci., Machida, 194, Japan
 SO J. Bacteriol. (*****1987*****), 169(7), 3044-50
 CODEN: JOBAAY; ISSN: 0021-9193
 DT Journal
 LA English
- L5 ANSWER 17 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1987:114364 CAPLUS
 DN 106:114364
 TI Characterization of the sacQ *****genes***** from
*****Bacillus*****
 licheniformis and *****Bacillus***** subtilis
 AU Amory, Antoine; Kunst, Frank; Aubert, Elisabeth;
 Klier, Andre;
 Rapoport, Georges
 CS Dep. Biotechnol., Inst. Pasteur, Paris, 75724, Fr.
 SO J. Bacteriol. (*****1987*****), 169(1), 324-33
 CODEN: JOBAAY; ISSN: 0021-9193
 DT Journal
 LA English
- L5 ANSWER 18 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1986:568747 CAPLUS
 DN 105:168747
 TI Physiological properties and transformation of
 alkaline-tolerant
 bacteria
 AU Yu, Ju Hyun; Chung, Yong Joon; Chung, Kun Sub; Oh,
 Doo Hwan
 CS Dep. Food Eng., Yonsei Univ., Seoul, S. Korea
 SO Sanop Misaengmul Hakhoechi (*****1986*****), 14(3),
 239-44
 CODEN: SMHAEH
 DT Journal
 LA Korean
- L5 ANSWER 19 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1986:401657 CAPLUS
 DN 105:1657
 TI Molecular cloning and nucleotide sequence of a
*****DNA*****
 fragment from *****Bacillus***** natto that enhances
 production of
 extracellular proteases and levanucrase in
*****Bacillus*****
 subtilis
 AU Nagami, Yoichi; Tanaka, Teruo
 CS Cent. Res. Lab., Mitsubishi Chem. Ind., Kanagawa, 227,
 Japan
 SO J. Bacteriol. (*****1986*****), 166(1), 20-8
 CODEN: JOBAAY; ISSN: 0021-9193
 DT Journal
 LA English
- L5 ANSWER 20 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1986:180782 CAPLUS
 DN 104:180782
 TI *****Bacillus***** subtilis (natto) plasmid responsible for
 polyglutamate production encoding
 gamma-glutamyltranspeptidase
 AU Hara, Toshio; Fujio, Yusaku; Ueda, Seinosuke
 CS Fac. Agric., Kyushu Univ., Fukuoka, 812, Japan
 SO J. Fac. Agric., Kyushu Univ. (*****1985*****), 30(2-3),
 95-105
 CODEN: JFAKAU; ISSN: 0023-6152
 DT Journal
 LA English
- L5 ANSWER 21 OF 25 CAPLUS COPYRIGHT 1998
 ACS
 AN 1986:16047 CAPLUS
 DN 104:16047
 TI Cloning, sequencing, and some properties of a novel
*****Bacillus*****
 amyloliquefaciens *****gene***** involved in the increase
 of
 extracellular protease activities
 AU Tomioka, Noboru; Honjo, Masaru; Funahashi, Kei;
 Manabe, Kazuaki,
 Akaoka, Akiko; Mita, Izumi; Furutani, Yoshio
 CS Cent. Res. Inst., Mitsui Toatsu Chem. Inc., Mobarra,
 297, Japan

08/952,741

SO J. Biotechnol. (***1985***), 3(1-2), 85-96

CODEN: JBTD4

DT Journal

LA English

L5 ANSWER 22 OF 25 CAPLUS COPYRIGHT 1998

ACS

AN 1983:155852 CAPLUS

DN 98:155852

TI Growth defects of *Escherichia coli* cells which contain

the ***gene*** of an α -amylase from ****Bacillus****

coagulans

on a multicopy plasmid

AU Willemot, Karine; Cornelis, Pierre

CS Dep. Biol. Mol., Inst. Pasteur, Paris, F-75724, Fr.

SO J. Gen. Microbiol. (***1983***), 129(2), 311-19

CODEN: JGMIAN; ISSN: 0022-1287

DT Journal

LA English

L5 ANSWER 23 OF 25 CAPLUS COPYRIGHT 1998

ACS

AN 1980:2997 CAPLUS

DN 92:2997

TI Genetic instability of sporulation-associated characters in

a ****Bacillus**** subtilis mutant: relationship between

sporulation,

segregation and the synthesis of extracellular enzymes

(kinetic

studies)

AU Zucca, Joseph; Balassa, Georges; Sousa, J. C. F.; Silva,

M. T.

CS Unite Microbiol., CNRS, Montpellier, Fr.

SO J. Gen. Microbiol. (***1979***), 112(2), 283-96

CODEN: JGMIAN; ISSN: 0022-1287

DT Journal

LA English

L5 ANSWER 24 OF 25 CAPLUS COPYRIGHT 1998

ACS

AN 1978:166519 CAPLUS

DN 88:166519

TI Independent control of the production and localization of

alkaline phosphatase from the production of

α -

amylase and protease in ****Bacillus****

subtilis

AU Hitotsuyanagi, Kazumasa; Yamane, Kunio; Maruo,

Bunji

CS Shimonoseki Women's Junior Coll., Shimonoseki, Japan

SO Agric. Biol. Chem. (***1978***), 42(3), 585-92

CODEN: ABCHA6; ISSN: 0002-1369

DT Journal

LA English

L5 ANSWER 25 OF 25 CAPLUS COPYRIGHT 1998

ACS

AN 1974:474762 CAPLUS

DN 81:74762

TI Regulation of neutral protease productivity in

****Bacillus****

subtilis. Transformation of high protease productivity

AU Uehara, Hitoshi; Yoneda, Yuko; Yamane, Kunio;

Maruo, Bunji

CS Inst. Appl. Microbiol., Univ. Tokyo, Tokyo, Japan

SO J. Bacteriol. (***1974***), 119(1), 82-91

CODEN: JOBAAY

DT Journal

LA English

=> d 15 ab

L5 ANSWER 15 OF 25 CAPLUS COPYRIGHT 1998

ACS

AB A 5.7 kb *EcoRI* fragment contg. the ***alk***

amylase

gene of ****Bacillus**** sp. AL-8 was

transformed in *B.*

subtilis via plasmid pUB110. The enzymic properties of

the amylase

produced by the transformants were identical to those of

the donor

strain. Thus, the ***alk*** ***amylase*** activity

from

the transformant was max. at pH 10 and 50 degree.. The

enzyme was

very stable over the ranges of alk. pH. In order to det. the

location of the ***alk*** ***amylase***

gene

within the 5.7 kb ***DNA*** fragment, the fragment

was subcloned

in *E. coli*. The ***alk*** ***amylase***

gene was

located on a *EcoRI* fragment of 3.7 kb.

=> dis his

(FILE HOME' ENTERED AT 13:01:22 ON 24 SEP 1998)

FILE 'CAPLUS' ENTERED AT 13:01:29 ON 24 SEP

1998

L1 753 S ALKALINE (15A)AMYLASE

L2 118 S BACILLUS AND L1

L3 103 S L2 AND PY<1996

L4 7 S L2 AND PY=1996

L5 25 S L3 AND (GENE OR DNA)

=> log h

COST IN U.S. DOLLARS SINCE FILE

TOTAL

FULL ESTIMATED COST

42.36

ENTRY

SESSION

42.21

DISCOUNT AMOUNTS (FOR QUALIFYING

ACCOUNTS) SINCE FILE TOTAL

ENTRY

SESSION

-0.52

CA SUBSCRIBER PRICE

-0.52

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT

13:15:28 ON 24 SEP 1998